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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,359	12/30/2000	Gary Cao	042390P9473	8440

7590 01/06/2005
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EXAMINER

RAO, SHRINIVAS H

ART UNIT PAPER NUMBER

2814

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,359

Applicant(s)

CAO ET AL.

Examiner

Steven H. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 05/25/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Priority

Receipt is acknowledged of paper submitted under 37CFR 1.114 claiming priority from U.S. Serial No. 09/752359 filed on December 30, 2000 35 which papers have been placed of record in the file.

Request for Continued Examination Application

The request filed on 10/18/2004 for a Request for Continued Examination Application (RCE) under 37 CFR 1.114(d) based on parent Application No. 09/752359 is acceptable and a RCE has been established. An action on the RCE follows.

Information Disclosure Statement

No IDS to date has been filed in this case.

Preliminary Amendment Status

Acknowledgment is made of entry of preliminary amendment filed October / 08/ 2004.

Therefore claim 1 as amended by the amendment and claims 2-11 as previously recited are currently pending in the Application.

Claims 12 to 16 were previously cancelled by amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

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skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satya et al. (U.S. Patent No. 6,528,818, herein after Satya) in view of Gallarada et al. (U.S. Patent No. 6,539,106 herein after Gallarda)

With respect to claim 1 Satya describes a structure comprising: a first set of features disposed entirely within the scribe line, (Satya abstract line 2-4, Satya col. 37 lines 28 to 30) said first set of features being a subset of product features; (Satya figure 27, etc.) and , a second set of features disposed entirely within said scribe line and adjacent to said first set of features, (Satya abstract lines 6-8, Satya col. 37 lines 28 to 30) .

Satya does not specifically mention or describe the second set of features occupying a smaller area than the first set.

However Gallarda in figure 5 # 536 compared with other structures (526-534) describes the second set of features occupying a smaller area than the first set so that the tester (observer) can quickly and efficiently distinguish between defects that reduce reliability of the device (killer defects) and a surface or image artifact which is not of interest and does not effect overall reliability of the device, which are placed in smaller/larger areas .

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include Gallarda's second set occupying a smaller area than said first set, in Satya's device so that the tester (observer) can quickly and efficiently distinguish between defects that reduce reliability of the device (

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killer defects) and a surface or image artifact which is not of interest and does not effect overall reliability of the device, which are placed in smaller/larger areas .

The remaining limitations of claim 1 are :

second set being similar to said first set, (Gallarda figure 5, etc.) said second set being distinguishable from surrounding structures. (Satya Abstract last two lines).

With respect to claim 2 Satya describes the structure of claim 1 wherein critical dimension (CD) is measured on said first set of features. (Stay figure 2, col. 8 lines 15-22).

With respect to claim 3 Satya describes the structure of claim 1 wherein said first set of features and said second set of features differ in spaces between features. (Staya figure 4D # 216 and 214)

With respect to claim 4 describes the structure of claim 1 wherein said first set of features and said second set of features differ in linewidths of features. (Staya figure 4 D).

With respect to claim 5 describes the structure of claim 1 wherein said first set of features and said second set of features have the same pitch for features. (Satya figure 4C).

With respect to claim 6 describes the structure of claim 1 wherein said first set of features comprises a first array of holes. (Gallarda figure 4, col. 6 lines 36 to 48).

With respect to claim 7 describes the structure of claim 6 wherein said first array of holes comprises a 5 by-5 square array of holes. (Gallarda figure 5).

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With respect to claim 8 describes the structure of claim 6 wherein said second set of features comprises a second array of holes. (Gallarda figure 5).

With respect to claim 9 describes the structure of claim 8 wherein said second array of holes differs from said first array of holes in size of array. (Gallarda figure 5 #536 compared with other structures 526-534).

With respect to claim 10 describes the structure of claim 8 wherein said second array of holes differs from said first array of holes in space between holes. (Gallarda figures 18 A and E)

With respect to claim 11 describes the structure of claim 8 wherein said second array of holes differs from said first array of holes in line widths of holes. (Staya figure 4 D).

Response to Arguments

Applicant's arguments filed 10/18/2004 have been fully considered but they are not persuasive for the following reasons :

Applicants' first contention is that the Applied Satya reference teaches a structure located within the test die array and does not disclose/teach the test structure as located entirely within a scribe line.

This contention is not persuasive because

Satya in col. 37 lines 28 to 30 states :

Additionally, the above described test structures may be formed on any suitable portion of the wafer, such as within the scribe line or on any portion of one or more dice.

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Therefore contrary to Applicants' arguments the applied primary reference does teach the test structures including a plurality of dies within the scribe lines .

Applicants' arguments " the test structures are located .. between two dice " is not presently recited in claim 1 and therefore is not commensurate in scope with the presently recited claims, all of which do not recite the limitation " .. between two dice " .

Applicants' are reminded that current U.S. practice requires , that Claims be given their broadest reasonable interpretation . In re Pearson, 181 USPQ 641 (CCPA 1974).

Further ,it is well settled law that that argued subject matter must be recited in the claims .

In response to Applicants' arguments that Satya does not include certain features of Applicants' invention, one limitation (test structure located entirely within said scribe line is taught by the applied primary reference) the limitation on which the Applicant relies (i.e. between two dice) is not stated in the claims as presently recited. It is the claims that define the invention, and it is claims not specifications that are anticipated or unpatentable. Constant V Advanced Micro-Devices Inc., 7 USPQ 2d 1064.

Applicants' second contention that the Examiner has mischaracterized the applied Gallarda reference is not understood because the Examiner applied the Gallarada reference to show the teaching of the second set of features occupying a smaller area than the first set. (as stated in the last Office Action page 4 , starting 5 th full paragraph) and Applicants' contend that Gallarda's

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structure is not located entirely within the scribe line (It is noted that as stated above the applied primary reference Satya discloses/teaches test structures located entirely within the scribe line and therefore it is not necessary for the applied secondary reference to also include teachings /suggestions taught by the primary reference), secondly the alleged distinguishing element " between two dice" is not presently recited in the claims and therefore cannot be given patentable weight.

Applicants' contention that Gallarda teaches a first set including five/six features of a reference image including contact holes having same pitch and critical dimension and therefore the combination of test-die structures of satya and Gallarda will not produce the scribe line structure as presently claimed in claim 1 is not persuasive because the Applied primary reference Satya, will by itself produce the presently recited in claim 1 namely the scribe line structure. Applicants' cannot ignore the teachings of the references in trying to arrive at contrary conclusions.

As stated as the presently recited limitations of claim 1 are taught by the applied reference and therefore not persuasive.

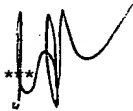
Therefore all of Applicants' arguments are not persuasive and pending claim 1 and dependent claims 2-11 are rejected.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Steven H. Rao whose telephone number is (703) 306-5945. The examiner can normally be reached on Monday- Friday from approximately 7:00 a.m. to 5:30 p.m.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956. The Group facsimile number is (703) 308-7724.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steven H. Rao

Patent Examiner

December 23, 2004